Avalanche Awareness – a seminar on how to avoid avalanche risk
3 AXIOMS / things to remember

Axiom 1 – Don’t go if you don’t know

Axiom 2 – Think terrain, not snow

Axiom 3 – Human factors
Avalanche forecast for Nordenskiöld Land
How to make an Avalanche forecast
App and desktop
Avalanche problem
Type of avalanche
Expected size
Tigger/release mechanism
Distribution of avalanche problem
Probability of triggering

More detailed text about the avalanche problem, terrain, weather

Explanations

Danger level and main message
Avalanche danger scale

THIS SCALE INDICATES: The likelihood of natural and human-triggered avalanches
- How much of the terrain is potentially dangerous
- Expected size of avalanches

NB! The danger scale is exponential.
The likelihood of avalanches doubles for each increase in danger level.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>HIGH – Triggering is likely, even from small additional loads. Remote triggering is likely. In some cases, numerous medium-sized and often large natural avalanches can be expected.</td>
</tr>
<tr>
<td>3</td>
<td>CONSIDERABLE* – Triggering is possible, even from small additional loads. Remote triggering is possible. In some cases medium-sized, in specific areas large natural avalanches are possible.</td>
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<tr>
<td>2</td>
<td>MODERATE* – Triggering is possible, particularly from heavy additional loads. Large-sized natural avalanches are unlikely.</td>
</tr>
<tr>
<td>1</td>
<td>LOW – Triggering is generally possible only from heavy additional loads in isolated areas. Only small-sized natural avalanches are possible.</td>
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</tbody>
</table>

*MOST FATAL ACCIDENTS HAPPEN AT DANGER LEVELS 2 AND 3. THE AVALANCHE IS OFTEN TRIGGERED BY THE VICTIM THEMSELF.

Danger level 5 occurs very rarely – all travel should be avoided.

Travel in avalanche terrain requires the ability to identify possible avalanche problems and to cope with them.

Avalanche terrain: Release area > 30°
Runout zone ≈ 3 × height of the slope
WE CAN’T AFFECT AVALANCHE DANGER OR WEATHER!

BUT WE CAN CHOOSE WHERE AND WHEN TO TRAVEL!
Known avalanche tracks

- From 2007 to 2010
- 191 naturally triggered slab avalanches

Kart: M. Eckerstorfer/H. Christiansen, UNIS
Terrain trap
Scooterløypa krysser utløpsområde
H
3 x H
20°
“Lille runden”
Be careful in lee areas with wind deposited snow, typically behind ridges, ribs and in gullies. Buried surface hoar is a problem in some locations.

### Storm slab avalanches
- **Buried weak layer of new snow**
- **Avalanche type:** Slab avalanche
- **Avalanche size:** 3 - Medium
- **Trigger/release:** Low additional load
- **Distribution:** Some steep slopes
- **Probability:** Possible

Avoid terrain traps and steep slopes until the new snow has stabilized. The avalanche problem is generally widely distributed on any steep slope with deep new snow. Look for cohesive new snow that breaks apart or is poorly bonded to the old snow. Cracks around your skis are a typical sign.

### Persistent slab avalanches
- **Buried weak layer of surface hoar**
- **Avalanche type:** Slab avalanche
- **Avalanche size:** 3 - Medium
- **Trigger/release:** High additional load
- **Distribution:** Some steep slopes
- **Probability:** Possible

Avoid skiing in steep terrain (more than 30 degrees) and in runout zones. NB, remote triggering is likely. Make very conservative route choices, especially in unknown terrain, after snowfall and if temperatures rise. Identifying areas where the weak layer is present might be difficult and requires experience. Danger signs are whoompf-sounds, cracking and recent avalanches. However, absence of signs does not mean it is safe.
Remotely triggered by scooter
Reduce risk – evaluate your trip through 3 filters

FILTER 1 – PLANNING – PRIOR TO THE TRIP

Check the bulletin at varsom.no
- What is the danger level? See reverse for more information on danger levels.
- What is the avalanche problem and where in the terrain will I most likely meet it?
- What is the weather forecast? (Visibility, wind, precipitation and temperature.
  Will the weather affect the avalanche risk?)

What do you do?
• Plan your trip on the map, both ascent and descent.
  Use available guidebooks. Consider alternative routes.
• Mark critical points on the map (areas where you may expect the avalanche problem). In the terrain, you must assess the risk before crossing any critical points.
• Limit the size of your group (≤ 4). A small group will make it easier to communicate, make good decisions and keep an eye on each other.

CONTROL QUESTION BEFORE THE TRIP:
Is the trip suitable for you and your group – under the forecasted conditions – in this terrain?

See varsom.no/Snoskred for avalanche bulletins
Weather forecast

Look for:

• Strong Winds
• Temp. fluctuations
• Large volumes of precipitation
Avalanche danger scale

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**NB! The danger scale is exponential.**
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- **CONSIDERABLE** – Triggering is possible, even from small additional loads. Remote triggering is possible. In some cases medium-sized, in specific areas large natural avalanches are possible.
- **MODERATE** – Triggering is possible, particularly from heavy additional loads. Large-sized natural avalanches are unlikely.
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**MOST FATAL ACCIDENTS HAPPEN AT DANGER LEVELS 2 AND 3. THE AVALANCHE IS OFTEN TRIGGERED BY THE VICTIM THEMSELVES.**

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Travel in avalanche terrain requires the ability to identify possible avalanche problems and to cope with them.

**Avalanche terrain:** Release area $> 30^\circ$
Runout zone $= 3 \times$ height of the slope
Reduce risk – evaluate your trip through 3 filters

**FILTER 2 – AREA EVALUATION – ON TOUR**

What do you do?
- Do you see anything that differs from when you planned the trip?
  Is the visibility good? Can you evaluate the surrounding terrain? Can you see any forecasted or other avalanche problems? Are there other people nearby – who may come above or underneath you in the terrain? Remember to stop and evaluate **before** moving into the critical points!

**CONTROL QUESTION:** Is the trip doable? Does everybody agree? If not, follow an alternative route or turn around!

**FILTER 3 – SINGLE SLOPE EVALUATION – CRITICAL POINTS**

What do you do?
- Do you see anything that differs from when you planned the trip?
  Is there an avalanche risk in the slope? If yes, what is the likelihood of a natural avalanche, or that your group triggers one? Are there terrain traps (trees, cliffs, or depressions that can be filled up with snow)? Are there safe spots so that only one person at a time is exposed?

**CONTROL QUESTION:** Is it safe to ascend, descend or cross the slope? Does everybody agree? If not, follow an alternative route or turn around!
ALWAYS REMEMBER:
- Consult the avalanche bulletin.
  (Danger level, avalanche problem(s) and where?)

Before start
- Group check – do the beacons work?
- Does everybody have a shovel and a probe?
- Does everybody agree about the trip?

All the time
- Communication within the group.
- Orientation – what type of terrain surrounds you?
  (release areas, terrain traps, runout zones)
- Take advantage of safer terrain (e.g. ridges).

Ascent
- Reduce the load – minimum 10 meters between each skier when steeper than 30°.

Descent
- One at a time in terrain steeper than 30°.
- Stop only in safe spots.
Safe travel

- Always shovel, probe and avalanche beacon.
- Pay attention to terrain traps.
- Remember and take the terrain around (above) you into consideration.
- Do not park in runout zones.
- Identify the avalanche problem(s) given in the avalanche forecast.
- Avoid or travel with caution in terrain that has an addressed avalanche problem.
- Wait, at least one day, before you travel in avalanche terrain after a storm.
- Think through your arguments for your decision – What tells you that your planed route is safe?
3 AXIOMS / things to remember

Axiom 1 – Don’t go if you don’t know

Axiom 2 – Think terrain, not snow

Axiom 3 – Human factors
How can you contribute?

• Share your observations
• Use RegObs
Companion rescue – do you know what to do?
Time is critical

If recovered within 15 minutes, chances of survival are almost 92%

At 35 minutes, survival rate drops to 37%

After that, the success rate is extremely low.
Rescue equipment

Avalanche Beacon

Follows an electronic signal to the buried victim

Always make sure your beacon is functioning properly before heading out for the day.
Rescue equipment

Avalanche Probe

Verifies the depth and location of a buried victim
Rescue equipment

Avalanche Shovel

Used to dig out the victim

Carry in your pack, not under the hood
Learn and train with the equipment

• Know your avalanche gear!
• Learn and train on the most effective techniques!

bca – ava rescue
• Additional safety equipment

• Organized rescue
Stay on top – Have a nice and safe winter!